COVID-19 DECODED

RID THE FEAR- THERE IS A CHANCE

15 APRIL 2020

MANAGING COVID -19 AT HOME

APPROACHING COVID-19 FROM A PHYSIOTHERAPIST'S PERSPECTIVE

(This article is written strictly on a 'personal advise and opinion' basis based on sound medical and physiotherapy knowledge I possess and many years of practice both in government and private practice. The views do not represent a group or collective opinions and some comments, recommendations or content may be divergent from those of others in my field of work)

I am a holder of a Bachelor of Science Honours in Physiotherapy degree having graduated from the University of Zimbabwe Medical School in 1992. I worked in many hospitals and ran my own practices for over 15 years before I left the profession for other interests. The advise I would like to give here is based on my experience from interacting with hundreds of patients suffering from a wide variety of **Respiratory conditions** whose presentation and symptoms are similar to those of Covid-19.

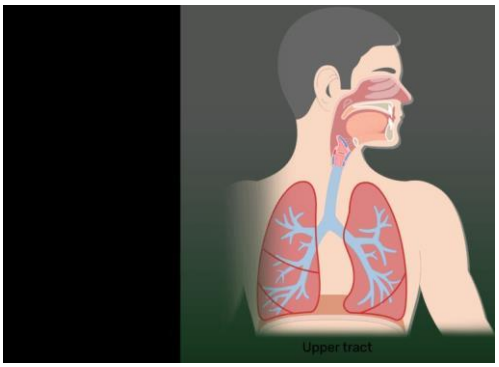
The ages of my patients spanned the whole age range from infants to bed-ridden geriatric patients. I worked with them in different setups covering literally every environment from general wards and ICU in government hospitals and private hospitals, in child care units, maternity wards, at private homes and in old peoples' homes. These patients were uniformly from all races, colour and creed. I therefore hope I stand on good ground for my account on **decoding covid-19** to be medically credible and sound having studied and followed current online specialists reports and research articles gathered from medical records of Wuhan (China) and other European victims (*after the events.)*

It is my hope that I may assist you to understand the disease, exactly how it is causing death in its victims and how (**whilst you stay safe at home)** you can remove your **fear** of the disease and replace it with **caution and hope**. This article is meant to assist you to do what is necessary in the event of falling sick at home during lockdown, **and know that all hope is not lost.**

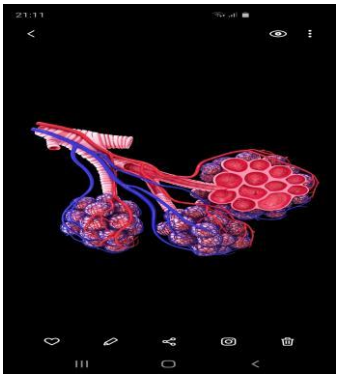
Disease background

I am not going to deal a lot with the complexities of this new viral disease. There is a lot of information already out there and for you to understand my message you do not need to know the complicated interactions of the virus with your body. However let me walk you through the important basics you may need to know in order for you to understand my message:-

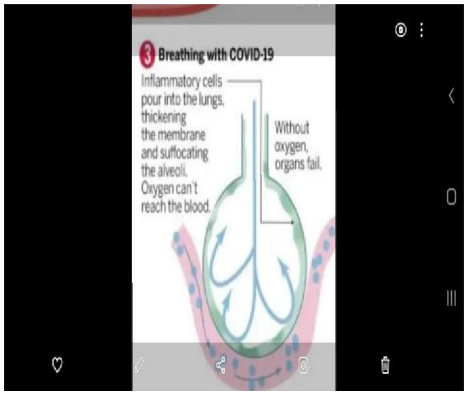
- Upon exposure you may start feeling any of the symptoms you have been hearing about from other sources and public information desks from a couple of days right up to 21 days from that date. It is necessary to understand that lockdown extensions are an essential necessity resulting from a direct response in the monitoring of these possible late manifestations of the disease.
- The virus may attack a good number of us but most of us will suffer some flu- like symptoms of different intensities or show no symptoms at all and be fine over about 3 weeks. Other symptoms not normally associated with flu may also be experienced which have been noted or reported to be associated with the virus.
- Some people exposed to the virus may suffer more severe symptoms if the virus does what we call **descending** down what you generally call the throat and enter the lungs. There it causes what is known as **pneumonia**. This is simply inflammation of lung tissue resulting in tissue damage and some swelling. This group may suffer some chest pain and or chest muscle cramps of differing severity but most will recover. Victims will be fine in more or less the same time as the first group above. It is important to point out that these recoveries are with or without treatment. As there is no cure for Covid-19, treatment is meant to ease symptoms.
- There however is a group of concern who once infected, just like in the last group the infection **descends** into the lungs and causes structural damage to the lining of the lungs, causing the **same flu like symptoms as above.** However something else happens in this group which has been causing all this fear and mystery of the disease. This occurrence is what has made Covid-19 mysterious and outright dangerous.
- In order to decode the mystery lets take a closer look at the body right inside your lungs. Down your throat and wind pipe you have tree-like branches which lead to both sides of your chest where your two lungs are located.



- These branches lead to small tennis-ball like structures deep in your lungs called alveoli which are arranged in their multitudes in structures that look like a bunch of grapes.



- In these very tiny sacks is where the lungs take oxygen into the body and, in a reverse process expels carbon dioxide (a waste gas product) from your body. Here, the virus also affects another type of cells in the alveoli called alveoli type-2 cells (type II cells) According to Dr. James Saunders of Santa Clara Valley Medical Center (USA)_(The Mercury News 11 April 2020) some people, and for reasons not yet known to scientists, the body's immune system which is actually responsible for fighting and fending off the virus from your body goes into **an overdrive**, like an **over-reaction** to the infection.
- In this instance it is no longer the virus that is the problem, **its your own immune system that is out of control**. This response floods the alveoli with inflammatory fluid. This in simple terms takes the place where the air we breath is supposed to be sitting to deliver oxygen into our body through the alveoli walls and in turn take out waste gases from the body. This is the same thing that happens with someone who is drowning in a pool of water. Oxygen intake is impossible and death follows.


Breathing with COVID-19
Inflammatory cells pour into the lungs, thickening the membrane and suffocating the alveoli. Oxygen can't reach the blood.
Without oxygen, organs fail.

WHAT TO DO

Now that you know what happens in your body lets first understand that at this stage, **it is this dangerous overreaction causing your lungs to literally drown** you in your own body fluids that is the danger and not the virus . **The virus itself is already reportedly getting less and less** in your body at this stage. This rare overreaction mimics what we call **A**cute **R**espiratory **D**istress **S**yndrome (**ARDS)** with major differences that the usual treatment protocols for ARDS are simply not working. So it is not the actual virus which is bothering scientist in managing this group of victims at this stage, it is this atypical (abnormal) ARDS-'like' reaction manifesting in your body.

My advise, which I have written this article for is to assist you with how you can assist yourself in the absence of any professional medical assistance at home if you are suddenly faced with such a catastrophe during lockdown. I **emphasise**, lets keep in mind that the actual cause of death at this point is not the **virus,** this is on its way out at this stage. It is not the actual process of over-release of inflammatory fluids in essence that kills you, **BUT instead it is the failure of your lungs to deliver oxygen into your body,** because the **'road is blocked'** by the released fluids.

It then follows that if we find a way to clear the passage of air to deliver oxygen to the alveoli and deliver the oxygen you critically require at this stage whilst buying time for your immune system to '**calm down'** so to speak, we may reduce chances of death by an enormous margin. This is supported by my online research and observations that most if not all reported cases where the fluid was removed by a series of **suction** treatments, the over-drive reaction has slowed down on its own and disappeared altogether. **Suction treatment** is a procedure where we put a tube through your nose down into your lungs and a machine sucks out this excess liquid from your lungs (more like a vacuum cleaner sucking out water from a carpet.)

The techniques and instructions I am about to give you have been tried and tested under clinical conditions and have been in medical practice for years, there are still being practiced in hospitals throughout the world in this moment.

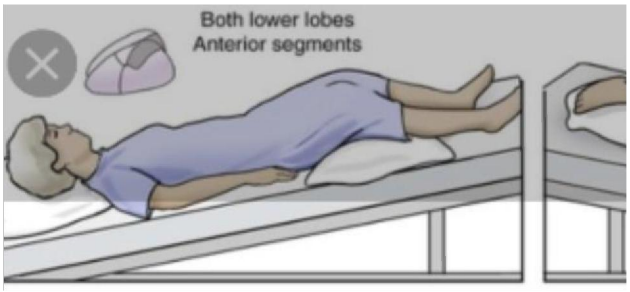
(1) My current online research and perusal of a multitude of radiological images of chests of people who suffered or were afflicted by the virus in Wuhan where the disease was first reported and later in Europe, indicate that the alveoli, which are mainly affected by this reaction are mostly located at the base of the lungs (**what we call basal lobes**). In most cases both sides are affected but in a notable number of cases, on one side only and from my observation mostly the right side.

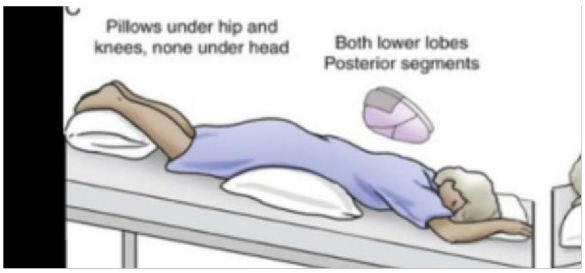
(2) The image on the left side represents a normal chest x-ray belonging to a healthy adult. Note the main things you see in the x-ray is your rib cage. Your lungs are the dark field inside the cage. Note the visibly sharp angles at the bottom of the lungs and a smooth curvy top angle. In the middle of the rib cage is the spinal code and a feature a little bit off the center line on the right side of the x-ray is the heart. (the x-ray was taken from front to back).

However in the image on the right taken in these recent times from an affected patient, things have gone horribly wrong. The whiteness you observe at the bottom of the lungs is alveoli filled with inflammatory fluid. Note how much of the dark healthy part of the lungs are available to take in air (circled in yellow). The top art of your lungs are smaller and tapered than the bottom of the lungs which is bigger and wider. Most of your breathing ability and oxygen intake is therefore gone at such a stage. Death may result.

*a small but important digression. You will recall I mentioned the virus causes breakdown and swelling of lung tissue during the inflammation, if you look at the x-ray image on the right side you will notice that the heart is now jumbled up in that image. When lungs swell they tend to squeez on the heart as the rigid rib cage cannot create extra space for the expanding organs. This is a serious risk for people who already have heart problems and high blood pressure, as your heart will not be able to do its job of pumping blood throughout your body effectively.

(3) **From this observation of fluid accumulation mostly at the base of the lungs**, if for some reason you or a member of your family falls victim to this infection and deteriorate to this 3rd level, lift the foot-side of your bed to about chair-level. Support the lifted side with a chair or stool to hold it there at about 25 degrees. Go onto the bed and stay lying down except for eating and toilet. Alternate positions between lying on your back and your tummy. Keep a bucket next to the bed, **you will need it.**





(4) When you are lying on your tummy, move your head close to the edge of the bed and hang it over the edge. Get someone to prepare hot steaming water in a fairly wide dish the size of a baby-bath dish. Place it a safe distance on the floor to steam directly onto your face. If u can, try and take a few deep breaths to draw in the moist air deep into the base of your lungs. This will help thin-off the problem fluids if they come too thick for you. A bit of vapor-rub if you have into the water will assist reduce chest- muscle tightening and any constriction of your airways to your lungs to help with the deep breathing.

(5) (NOTE:- It would further help to have someone drum your chest lightly with closed fists but I strongly recommend not to attempt in your quest to keep interaction with family members to the absolute minimum.)

Depending on the thickness of the inflammatory fluids, from just moments of taking up these positions to some 30-40 minutes, you will start coughing out this fluid drawn out by gravity.

*__word of caution:- you may literally 'vomit out' volumes of fluid you may think its coming from your stomach, no it's the inflammatory fluid from your lungs. This is normal, it is good, it is what we are looking for. This may also come with a lot of coughing, violent and 'chocky' sometimes, it is just what the respiratory system does when it is trying to remove from its system what should not be there. *__

Once this passes stay in that position for a little longer whilst focusing on controlling your breathing to a deep regular pattern. You should feel your breathing easing and your chest muscles should feel a bit rested and relieved to a large extent. You may have intermittent coughs here and there with some bits of fluid coming out with the coughs. You may turn around when you feel you are no more huffing to try and bring out anything.

On occasion if you feel your breathing is not troubled you can get up and walk around in the room. This procedure **MUST** go on until you do not feel you are under any threat of inability to breath. This is because until such a time as your immune system has come around, the damaged cells will continue pouring out the fluids. You may note though that with passage of time, hours, days (which because there is no available reference I cannot tell with certainty) your expectorant (fluid coughed out) gets less and less and your breathing becomes easier more and more.

I hope I have decoded Covid-19 for you and that you pass on the advise to others who may end up needing it more than you. For those who are lucky enough to have nebulisers at home, you can use these instead of bath dishes. Use the standard Ventolin or other medications your doctor has prescribed. In between the Ventolin you can put into the dispenser normal saline available from any pharmacy after you warm it up, or simply use hot water with a bit if table salt in it. You can further access online breathing exercise instructions on YouTube etc.

IN conclusion, may I be clear that the advise I have given here is still to be reported specifically for Covid-19, to check effectiveness, duration etc but judging from the successes being achieved when suction procedures are used in hospital on Covid19 patients, which are the mechanised parallels of the techniques I have taught you, and that the presentation of this drowning problem compares with many other bacterial conditions being treated everyday with the same techniques, it is my humbled belief that it will help a lot of people inflicted or affected in quarantine at home.

The techniques are not necessary for the majority of the affected who do not deteriorate to this 3rd level, you will recover just fine.

(May I give thanks to the owners of the materials and pictures and demonstrations I have used in this article. The article is 100% free, and can further be distributed for free. Lets distribute it around with the intention to save lives. ***Subject to copyright if used commercially)***

Lets stay indoors, lets stay safe. Lets make it easier for our leaders and law enforcers on whose lives we have entrusted ours. GOD BLESS YOU ALL.

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